

TAB 2 - DISCUSSION OF THREE TYPES OF DATA REDUCTION PROCEDURES FOR OPACITY REGULATIONS

1. Time-Averaged Type Data Reduction Procedure

This data reduction procedure is very similar to that of Method 9 except that it is applicable to SIP regulations which specify averaging times different from Method 9. Since Method 9 requires a 6-minute averaging time (24 observations at 15 second intervals), it may result in under-enforcement of SIP regulations in comparison with other, shorter averaging periods such as 3 or 4 minutes. Under-enforcement may occur because State regulations that specify averaging times of less than six minutes are better able to control sources with frequent opacity fluctuations. Under Section 2.5.2 of Method F-1, "Time-Averaged Regulations," individual 15-second readings are averaged over the time period specified by the SIP or Federally promulgated regulation.

2. Data Reduction Procedures for Time-Exception Opacity Regulations

This procedure applies to SIP regulations that allow a certain level of visible emissions to be exceeded for a specified period of time. Such regulations are often referred to as time-exception regulations. A typical time-exception regulation might provide that a source cannot exceed 20 percent opacity except for 5 minutes in any 1 hour. The 6-minute averaging techniques used in Method 9 may result in under-enforcement of such regulations. Under-enforcement may occur because some sources with intermittent emissions do not emit visible emissions continuously but instead exhibit short-term opacity peak or no visible emissions at all. Thus, the opacity readings in excess of the standard can be effectively offset in the averaging of 24 consecutive readings by the periods of very low readings, resulting in a overall opacity value which is in compliance with the SIP regulation.

Section 2.5.1 of Method F-1, "Time-Exception Regulations," provides for effective enforcement of time-exception provisions. It requires that readings above the allowable level be added together or "aggregated" to determine compliance with the exception period of the regulation. This is done without regard to any "averaging period."

3. Data Reduction Procedures for Instantaneous Opacity Regulations

This procedure applies to SIP regulations that are intended as never-to-be-exceeded opacity limitations. The proposed Section 2.5.3, "Instantaneous Limitation Regulations," specifies the use of an averaging time of 2 minutes for determining compliance with the "never-to-be-exceeded" or "cap" limitation. The 2 minute averaging time is used because it is consistent with acceptable accuracy levels for opacity observations.

Many State regulations include a two-tiered form of opacity standards. An example of a two-tiered limitation is ". . . visible emissions may not exceed 20 percent opacity, except for 3 minutes in any 1 hour, and may not exceed 40 percent opacity." The first level, 20 percent opacity, would be handled as a time-exception regulation, and the second level, 40 percent opacity, would be handled as an instantaneous limitation.